

AMENDMENTS TO THE SPECIFICATION

Please substitute the following amended paragraph(s) and/or section(s) (deleted matter is shown by strikethrough and added matter is shown by underlining):

Page 2, line 28 – Page 3, line 6:

For this purpose, the invention is a device for connecting the previously intubed extremities of a body duct with an approximately tubular prosthesis, comprising a sleeve of mesh or analogous material, deformable by the use of a balloon catheter and capable of radial expansion between a stable minimal-diameter configuration and a final after-expansion configuration that is also stable, said sleeve being equipped on each end with a series of ~~fixation barbs~~ transfixion pins for the portions covered by the sleeve, aligned at regular intervals, and encircling it radially. Said ~~barbs~~ transfixion pins present a hemostatic profile comprised of a circular base section extending to a trihedral end portion.

According to a preferred method of manufacture, the expandable sleeve comprising of a steel cylinder with openwork diamond-shaped cutouts and the ~~barbs~~ transfixion pins are added and set by soldering or gluing at the intersections of the sides of said diamond-shapes.

Page 3, line 9 – line 12:

According to a preferential method of manufacture, the immediate portion of the sleeve is also equipped with ~~fixation-barbs~~ transfixion pins. Preferably, the ~~barbs~~ transfixion pins encircling the ends of the sleeve are straight and the other ~~barbs~~ transfixion pins are slightly curved with their points oriented toward one end or the other of the sleeve or randomly in any other direction.

Page 3, line 26 – line 27:

FIG. 2A is an upright view of a ~~barb~~ transfixion pin.

FIG. 2B illustrates the trihedral profile of the tip of the ~~barb~~ transfixion pin in FIG. 2A.

Page 4, line 25 – Page 5, line 20:

According to the invention, on the two ends of the sleeve 16, ~~fixation barbs~~ transfixion pins 22 are placed at regular intervals encircling it radially facing outward from the external surface of the sleeve. The ~~barbs~~ transfixion pins 22 are of steel and are fastened, for example, by soldering or gluing onto the end points 24 of the sleeve 16. The ~~barbs~~ transfixion pins 22 have a length of between 0.5 mm and 3 mm and are straight. Their profile is hemostatic and comprises a cylindrical base 26 with a diameter of the order of several tenths of a millimeter, extending to an end part 28 in the shape of a trihedron. As with the meshed structure, the ~~barbs~~ transfixion pins 22 of FIGS. 1A and 1B are not shown at their actual size.

Preferably, all the points 24 at the two ends of the sleeve 16 are equipped with ~~barbs~~ transfixion pins 22. The ~~barbs~~ transfixion pins 22 of the ends may be of a reduced height compared to that of the barbs of the intermediate area. In fact, when the length of the sleeve 16 is greater than the length of the covered intubed portions, the end portions of the sleeve have a single wall to penetrate and so the ~~barbs~~ transfixion pins in these areas may be of a reduced height, having less wall thickness to penetrate than the other ~~barbs~~ transfixion pins of the sleeve.

On the external surface of the sleeve 16 defined between the two rings of end ~~barbs~~ transfixion pins 22, using the method of manufacture shown, ~~barbs~~ transfixion pins 22' are also implanted at the intersections of the branches 18 of the mesh structure, more specifically, only at some intersections.

A circular ring 30 of ~~barbs~~ transfixion pins 22' is arranged in the central area of the sleeve 16 at the rate of one ~~barb~~ transfixion pin for every two intersections. Between the central ring 30

and each end ring of ~~barbs~~ transfixion pins 22 another ring of ~~barbs~~ transfixion pins 22' is arranged that is identical to the ring 30.

The distribution of ~~barbs~~ transfixion pins 22' may or may not be even. Preferably, the ~~barbs~~ transfixion pins 22' have the profile shown in FIGS. 2A and 2B, that is, a hemostatic profile of the type of ~~barbs~~ transfixion pins 22 with cylindrical base 32 extending to an end tip with a trihedral profile 34 (FIG. 2B).

Additionally, the end tip 34 is preferably curved in the direction of one end or the other of the sleeve 16 or in any other direction, the ~~barbs~~ transfixion pins 22' preferably having various orientations and the incline of said end portions 34 being between 0 and 10 degrees, preferably approximately 5 degrees.

Page 5, line 27 – line 33:

Utilization of such a connecting device is relatively simple and is described as shown in FIG. 3. As is known, the end of the prosthesis 10 is intubed in the body duct 12 over a length of approximately 25 mm. The connecting device 14, very simply diagrammed in FIG. 3, is arranged in the interior of the prosthesis 10 to the right of the covered area of the body duct 12 and the prosthesis 10. When the sleeve 16 is expanded, the ~~barbs~~ transfixion pins 22, 22' perforate both the prosthesis and the body duct so as to assure the joining of the two components.

Page 6, line 24 – Page 7, line 3:

Due to the fact that the sleeve 16 can expand within a significant range of diameters, the ratio between the final, *in situ*, diameter of the sleeve and the initial diameter being advantageously greater than 2, and because its final state is stable since the sleeve does not retract once the placement balloon has been deflated, the sleeve 16 is effectively squeezed

against the intubed portions in question that is both impermeable and firm thanks to the fixation
barbs transfixion pins 22, 22' of said intubed portions.

Furthermore, the capability of the sleeve 16 to expand to varying sizes allows it, by way of a single-size sleeve, to be used for anastomoses, for example, of vessels whose diameters may vary over an extended range, for example, arteries, with a diameter of between 6 and 30 mm. Of course, however, depending on the applications, sleeves 16 may be made in different sizes and with barbs transfixion pins 22, 22' of different shapes and dimensions and distributed in different ways on the sleeve.